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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/757,584	01/15/2004	Takatoshi Ono	2004_0043A	4927

513 7590 10/24/2006

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EXAMINER

BODDIE, WILLIAM

ART UNIT PAPER NUMBER

2629

DATE MAILED: 10/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Supplemental</b>  <b>Office Action Summary</b>	<b>Application No.</b> 10/757,584	<b>Applicant(s)</b> ONO ET AL.	
	<b>Examiner</b> William Boddie	<b>Art Unit</b> 2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |  |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input checked="" type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. <u>10/19/06</u> .                           |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application  |
| Paper No(s)/Mail Date ____.  | 6) <input type="checkbox"/> Other: ____.                           |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-2, 4, 7 and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Eleyan et al. (US 6,144,370).

**With respect to claim 1**, Eleyan discloses, a trackball device (fig. 13) comprising:

a sphere (200 in fig. 13);

a support for rotatably supporting the sphere (108, 36, 94 in figs. 13-14);

a rotation detector for detecting rotation of the sphere (94 in fig. 14);

a controller for generating a specific output signal responsive to a signal from the rotation detector (col. 9, lines 49-55); and

an informer (106 in fig. 13-14) for generating auxiliary information responsive to rotating of the sphere, the auxiliary information being based on the signal from the controller (col. 9, lines 49-58).

**With respect to claim 2**, Eleyan discloses, the trackball device of claim 1 (see above), wherein the sphere includes magnetic material (100 in fig. 11; col. 8, lines 29-30), the informer includes an electromagnet (a-j in fig. 13), the sphere is placed in a

magnetic flux circuit generated by the electromagnet to be influenced by magnetic attractive force (col. 8, lines 44-47).

**With respect to claim 4**, Eleyan discloses, the trackball device of claim 2 (see above) further comprising a permanent magnet (100 in fig. 11) for influencing the sphere (200 in fig. 11) by magnetic field.

**With respect to claim 7**, Eleyan discloses, the trackball device of claim 2 (see above) wherein a direction of the magnetic flux generated by the electromagnet is alternately switched (col. 8, lines 36-44).

**With respect to claim 9**, Eleyan discloses, the trackball device of claim 1 (see above), wherein the informer includes a sound part for generating sound (col. 9, line 56 – col. 10, line 9).

3. Claims 1 and 8 are rejected under 35 U.S.C. 102(b) as being anticipated by Johnson et al. (US 5,914,705).

**With respect to claim 1**, Johnson discloses, a trackball device (fig. 2a) comprising:

- a sphere (20 in fig. 2a);
- a support for rotatably supporting the sphere (24 in fig. 2a);
- a rotation detector for detecting rotation of the sphere (col. 2, lines 49-52);
- a controller for generating a specific output signal responsive to a signal from the rotation detector (col. 2, lines 49-52); and

an informer (21, 22 and 29 in fig. 2b) for generating auxiliary information responsive to rotating of the sphere (col. 2, lines 42-47), the auxiliary information being based on the signal from the controller (input in fig. 2c).

**With respect to claim 8**, Johnson discloses, the trackball device of claim 1 (see above), wherein the informer includes an actuator for causing interference of force with the sphere (col. 3, lines 18-40).

4. Claim 10 is rejected under 35 U.S.C. 102(b) as being anticipated by Bruneau et al. (US 2002/0054011).

**With respect to claim 10**, Bruneau discloses, an input device comprising:  
a trackball device (fig. 2) comprising:  
a sphere (15 in fig. 2);  
a support for rotatably supporting the sphere (52,40 in fig. 2);  
a rotation detector for detecting rotation of the sphere (54 in fig. 2);  
a controller for generating a specific output signal responsive to a signal from the rotation detector (210 in fig. 5); and  
an informer (148, 150, 18) for generating auxiliary information responsive to rotating of the sphere, the auxiliary information being based on the signal from the controller (para. 11); and  
at least a second switch disposed around the trackball device (16a/b in fig. 1).

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Eleyan et al. (US 6,144,370) in view of Passaro (US 6,825,831).

**With respect to claim 3**, Eleyan discloses, the trackball device of claim 2 (see above), first and second supporting members (94s in fig. 14); and a third supporting member (36 in fig. 13) independent of the core (clear from fig. 14).

Eleyan does not expressly disclose, that the first and second supporting members are coupled to different ends of the electromagnet core.

Passaro discloses, a trackball that is supported by a first and second support (32 and 34 in fig. 1) which are coupled to different ends of a magnet (42 and 44 in fig. 1).

Eleyan and Passaro are analogous art because they are both from the same field of endeavor namely trackballs using magnetic flux.

At the time of the invention it would have been obvious to one of ordinary skill in the art to couple and orient the first and second supporting members of Eleyan to the ends of the electromagnet core as taught by Passaro.

The motivation for doing so would have been to protect the electronic pieces of the device from the environment (Passaro; col. 2, lines 48-58).

Therefore it would have been obvious to combine Passaro with Eleyan for the benefit of environmental protection to obtain the invention as specified in claim 3.

Art Unit: 2629

7. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Eleyan et al. (US 6,144,370) in view of Passaro (US 6,825,831) further in view of Yokoji et al. (US 6,909,422).

**With respect to claim 5**, Passaro and Eleyan disclose, the trackball device of claim 3 (see above).

Neither Passaro nor Eleyan disclose that the sphere and the supporting members are made from the same material.

Yokoji discloses, a trackball with a sphere (308 in fig. 19) and supporting members (326a, 325a in fig. 19) who are all formed from with an elastic surface material (col. 7, lines 60-65; col. 21, lines 42-46).

Yokoji, Passaro and Eleyan are all analogous art because they are all from the same field of endeavor namely, trackball devices.

At the time of the invention it would have been obvious to one of ordinary skill in the art to coat the surface of the sphere and support elements of Eleyan and Passaro with the with the same elastic material taught by Yokoji.

The motivation for doing so would have been to obtain an easy-to-manipulate track ball (Yokoji; col. 7, lines 63-65).

Therefore it would have been obvious to combine Yokoji with Eleyan and Passaro for the benefit of an easy-to-manipulate track ball to obtain the invention as specified in claim 5.

Art Unit: 2629

8. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Eleyan et al. (US 6,144,370) in view of Passaro (US 6,825,831) further in view of Mailey et al. (US 5,237,311).

**With respect to claim 6**, Passaro and Eleyan disclose, the trackball device of claim 3 (see above).

Neither Passaro nor Eleyan disclose, a switch operated by depression of the sphere.

Mailey discloses, the inclusion of a switch (b in fig. 1), which is operated by depression of a sphere (10 in fig. 1) in relation with a third supporting member (42 in fig. 1; also note the abstract discussion of the transducer).

Mailey, Passaro and Eleyan are all analogous art because they are all from the same field of endeavor namely, trackball devices.

At the time of the invention it would have been obvious to one of ordinary skill in the art to replace the third supporting member of Eleyan and Passaro with the switch controlling support member taught by Mailey.

The motivation for doing so would have been, the elimination of awkward finger movements to actuate a switch (Mailey; col. 2, lines 5-9).

Therefore it would have been obvious to combine Mailey with Eleyan and Passaro for the benefit of eliminating awkward movements to obtain the invention as specified in claim 6.

9. Claims 11-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bruneau et al. (US 2002/0054011) in view of Ideno (JP 64-24447).



**With respect to claim 11**, Bruneau discloses, a trackball device (fig. 2) comprising:

- a sphere (15 in fig. 2);
- a support for rotatably supporting the sphere (52,40 in fig. 2);
- a rotation detector for detecting rotation of the sphere (54 in fig. 2);
- a first controller (210 in fig. 5,) for generating a specific output signal responsive to a signal from the rotation detector (para. 73); and
- an informer (148, 150, 18) for generating auxiliary information responsive to rotating of the sphere, the auxiliary information being based on the signal from the first controller (para. 11).

Bruneau does not expressly disclose that the trackball device is located in a vehicle.

Ideno discloses, a vehicle comprising:

- a vehicle body having a vehicle cabin therein (fig. 1);
- a drive wheel supporting the vehicle body (the inclusion of a drive wheel is inherent in the design of a vehicle); and
- a trackball device provide in the vehicle cabin (2 in fig. 1).

Ideno and Bruneau are analogous art because they are both from the same field of endeavor namely the design and operation of trackball devices.

At the time of the invention it would have been obvious to one of ordinary skill in the art to use the trackball device of Bruneau in a vehicle as taught by Ideno.

The motivation for doing so would have been to enhance the interaction between drivers and the onboard computer system (Bruneau; para. 9).

Therefore it would have been obvious to combine Bruneau with Ideno for the benefit of enhanced interaction for drivers to obtain the invention as specified in claim 11.

**With respect to claim 12,** Bruneau and Ideno disclose, the vehicle of claim 11 (see above).

Bruneau further discloses, a second controller (200 in fig. 5) for receiving the signal from the first controller (clear from fig. 5); and

electronic equipment controlled by the second controller (204 and 26 in fig. 5).

**With respect to claim 13,** Bruneau and Ideno disclose, the vehicle of claim 11 (see above).

Bruneau further discloses, wherein the electronic equipment includes a display (26 in fig. 5) for displaying a cursor (note fig. 1), and rotation of the sphere causes movement of the cursor on the display (para. 11).

**With respect to claim 14,** Bruneau and Ideno disclose, the vehicle of claim 11 (see above).

Ideno further discloses, wherein the trackball device is disposed in a central position of a full width of the vehicle cabin (clear from figs. 1 and 4).

**With respect to claim 15,** Bruneau and Ideno disclose, the vehicle of claim 11 (see above).

Art Unit: 2629

Ideno further discloses, two seats in a front portion of the vehicle cabin, wherein the trackball device is disposed between the two seats (once again this is clear from figs. 1 and 4).

**Conclusion**

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Will Boddie whose telephone number is (571) 272-0666. The examiner can normally be reached on Monday through Friday, 7:30 - 4:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amr Awad can be reached on (571) 272-7764. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Wlb  
9/25/06

AMR A. AWAD  
SUPERVISORY PATENT EXAMINER

